Self-organization of dissipationless solitons in positive- and negative-refractive-index materials

Titre	Self-organization of dissipationless solitons in positive- and negative-refractive-index materials
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Auteur	Skarka, Vladimir [1], Aleksić, N.-B. [2], Berezhiani, V.-I. [3]
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Résumé en anglais	A generalized Ginzburg-Landau equation describing dissipative solitons dynamics in negative-refractive-index materials is derived from Maxwell equations. This equation having only real terms with opposite sign differs from the usual Ginzburg-Landau equation for positive-refractive-index media. A cross-compensation between the saturating nonlinearity excess, losses, and gain makes obtained self-organized solitons dissipationless and exceptionally robust. In the presence of such solitons medium becomes effectively dissipationless. The compensation of losses is of particular interest for media with resonant character of interactions like negative-refractive-index materials.
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